



Missouri Department of Natural Resources
Tributary to Big Otter Creek - WBID 1225
Water Chemistry Data, 2000-2007

Org	Site	Site Name	Yr	Mo	Dy	Time	H	Flow	C	DO	pH	SC	SO4	Cl	SO4+Cl
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2000	8	4	1200	4	0		4.9	290	125	6	131	
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2002	7	5			0.01	26	3.5	580	361	5.87	367	
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2002	8	28	1115	4	0	22	4.4	412	169	8	177	
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2003	5	14	1120			17	7.6	6.6	420	140	15	155
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2003	5	29	1120			18	6.9	6.9	505	198	14	212
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2003	6	10	900			18	7.1	6.6	622	126	14	140
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2003	7	29	1010		0	22.5	6	510	196	13	209	
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2003	12	3	1225		1	3	12.1	6.89	582	143	12.4	155
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2003	12	30	1120		1	4.5	5.9	295	100	11	111	
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2004	2	25	1310			4	10.9	7	520	133	16	149
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2004	4	23	1200			15	8.5	3.9	1094	318	9	327
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2004	5	26	1345			19	9.2	4.9	460	198	11	209
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2004	6	3	1430			22	7.1	5	509	232	11	243
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2004	6	10	1215			23	6.6	4.8	489	233	11	244
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2004	6	15	1045			25	6.9	4	916	246	11	257
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2004	8	13	1635		0.01		6.4		230	16	246	
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2004	9	29	1302		0.01	15.5	6.8	642	245	17	262	
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2004	10	28	1435			19	7.6	4	490	18	8	26
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2004	12	15	1045			2	13.6	4.6	485	153	10	163
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2004	12	28	1250			2	13.8	5.8	460	272	9	281
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2005	1	26	1330			3.5	12.1	3.2	641	278	7	285
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2005	2	3	1305		0.3	4.7	3.8	700	300	7	307	
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2005	3	10	1300			8	10.2	3.6	795	319	12	331
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2005	3	16	940		0.3	6.6	3.6	229	354	11	365	
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2005	4	19	1520			20	8.2	4	666	297	11	308
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2005	5	6	1210			18	8.9	3.8	835	384	10	394
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2005	5	19	1220		0.25	23	3.6	840	394	9	403	
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2005	7	20	1307			26.8	0.3	5.3	850	358	25	383
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2005	11	30	1345			6.5	9.4	4.5	970	428	10	438
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2006	2	2	1010		0.01	6.6	3.2	1281	654	7	661	
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2006	3	28	1145			9	8.1	4	1336	702	8	710
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2006	4	7	1005		0.05	12.9	8.7	3.3	1310	739	5.9	745
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2006	4	20	1400			16.2	5.5	4.1	1260	679	8.1	687

Org	Site	Site Name	Yr	Mo	Dy	Time	H	Flow	C	DO	pH	SC	SO4	Cl	SO4+Cl
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2006	5	17	1240			17.1	5.3	4	407	194	8.22	202
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2006	5	24	1255			23	2.4	4.1	429	215	8.61	224
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2006	6	14	1320			22	0.4	6.2	785	384	27.3	411
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2006	6	20	1230			24.8	0.8	6.7	860	239	49	288
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2006	6	27	1230			24	2.6	6.9	750	221	40.2	261
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2006	12	20	1200				8.9	6.6	523	170	4.73	175
MoDNR	1225/1.1	Trib. Big Otter Cr. 0.5mi.bl. AML	2007	6	14	1100			21	5.6	4	851	316	12	328

The water quality standard for the protection of aquatic life for pH is pH levels from 6.5 to 9.0. For pH, the Listing Methodology Document allows a water to be judged as impaired if more than 10 percent of the measurements fail to meet the water quality standard. Thirty-one of 40 pH measurements exceeded the standard, or 77.5 percent. Since the binomial probability is less than the minimum allowable type one error rate of 0.1, this water is judged to be **impaired** by pH.

The U.S. Environmental Protection Agency approved a total maximum daily load for pH for Tributary to Big Otter Creek in 2004; therefore, Tributary to Big Otter Creek will not be placed on the 303(d) List for pH.

The water quality standard for the protection of aquatic life for dissolved oxygen is 5mg/L. For dissolved oxygen, the Listing Methodology Document allows a water to be judged as impaired if measurements on 10 percent of the days monitored fail to meet the water quality standard. Five of 29 days exceeded the standard, or 17.2 percent. The binomial probability is .063. Since this probability is less than the minimum allowable type one error rate of 0.1, this water is judged to be **impaired** by low dissolved oxygen.

Missouri Department of Natural Resources, Water Protection Program, (573) 751-1300, www.dnr.mo.gov
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